

Docket No. 0148.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of Bernier et al.

Docket no. 0148.01

Art Unit:1616

Serial No. Unknown

Examiner: F. Choi

Filed: Concurrently Herewith

For: Chemical Composition that Attract Arthropods

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir,

Please enter the following Preliminary Amendment for the above-identified patent application, filed simultaneously herewith:

IN THE CLAIMS

Please amend the claims as set forth below.

Please cancel claims 10-14,16-19, 21,31-35,37, 38, 39, 41-42. Applicants reserve the right to file one or more continuation or divisional applications directed to the canceled subject matter.

Please add new claims 43-96

--43. (Newly Added) The composition of claim 1 wherein the compound of formula 1 is lactic acid, pyruvic acid, glycolic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.--

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--44. (Newly Added) A composition comprising mosquito attracting amounts of lactic acid and butanone.--

--45. (Newly Added) The composition of claim 44 further comprising dimethyl disulfide.--

--46. (Newly Added) A composition comprising mosquito attracting amounts of lactic acid and 2-pentanone.--

--47. (Newly Added) A composition comprising mosquito attracting amounts of lactic acid and carbon disulfide.--

--48. (Newly Added) The composition of claim 47 further comprising carbon dioxide.--

--49. (Newly Added) A composition comprising mosquito attracting amounts of lactic acid and acetone.--

--50. (Newly Added) The composition of claim 49 further comprising carbon dioxide.--

--51. (Newly Added) A composition comprising mosquito attracting amounts of lactic acid and dimethyl disulfide.--

--52. (Newly Added) The composition of claim 51 further comprising carbon dioxide.--

--53. (Newly Added) A composition comprising mosquito attracting amounts of pyruvic acid and acetone.--

--54. (Newly Added) A composition comprising mosquito attracting amounts of glycolic acid and acetone.--

--55. (Newly Added) A composition comprising mosquito attracting amounts of glycolic acid and carbon dioxide.--

--56. (Newly Added) The composition of claim 55 further comprising lactic acid.--

--57. (Newly Added) The method of claim 22 wherein formula I compounds comprise lactic acid, glycolic acid, pyruvic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.--

--58. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and butanone.--

--59. (Newly Added) The method of claim 58 wherein the composition further comprises dimethyl disulfide.--

--60. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and 2-pentanone.--

--61. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and carbon disulfide. --

--62. (Newly Added) The method of claim 61 wherein the composition further comprises carbon dioxide.--

--63. (Newly Added) A method for attracting mosquitos comprising exposing an

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environment with a composition comprising mosquito attracting amounts of lactic acid and acetone.--

--64. (Newly Added) The method of claim 63 wherein said composition further comprises carbon dioxide.--

--65. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and dimethyl disulfide.--

--66. (Newly Added) The method of claim 65 wherein the composition further comprises carbon dioxide.--

--67. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of pyruvic acid and acetone.--

--68. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of glycolic acid and acetone.--

--69. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of glycolic acid and carbon dioxide.--

--70. (Newly Added) The method of claim 69 wherein said composition further comprises lactic acid.--

--71. (Newly Added) A composition consisting essentially of mosquito attracting

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amounts of lactic acid and butanone.--

--72. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid, butanone, and dimethyl disulfide.--

--73. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid and 2-pentanone.--

--74. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid and carbon disulfide.--

--75. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid, carbon disulfide, and carbon dioxide.--

--76. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid and acetone.--

--77. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid, acetone, and carbon dioxide.--

--78. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid and dimethyl disulfide.--

--79. (Newly Added) A composition consisting essentially of mosquito attracting amounts of lactic acid, dimethyl disulfide, and carbon dioxide.--

--80. (Newly Added) A composition consisting essentially of mosquito attracting amounts of pyruvic acid and acetone.--

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--81. (Newly Added) A composition consisting essentially of mosquito attracting amounts of glycolic acid and acetone.--

--82. (Newly Added) A composition consisting essentially of mosquito attracting amounts of glycolic acid and carbon dioxide.--

--83. (Newly Added) A composition consisting essentially mosquito attracting amounts of glycolic acid, carbon dioxide, and lactic acid.--

--84. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and butanone.--

--85. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, butanone and dimethyl disulfide.--

--86. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and 2-pentanone.--

--87. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and carbon disulfide. --

--88. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, carbon disulfide, and carbon dioxide.--

--89. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and acetone.--

--90. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, acetone, and carbon dioxide.--

--91. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and dimethyl disulfide.--

--92. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, dimethyl disulfide, and carbon dioxide.--

--93. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of pyruvic acid and acetone.--

--94. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of glycolic acid and acetone.--

--95. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of glycolic acid and carbon dioxide.--

--96. (Newly Added) A method for attracting mosquitos comprising exposing an

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environment with a composition consisting essentially of mosquito attracting amounts of glycolic acid, carbon dioxide, and lactic acid.--

IN THE SPECIFICATION

Please amend the specification as follows:

Please amend the specification by inserting before the first line the sentence"

--This is a divisional of application serial number 09/304,362 filed 05/04/1999 , which is herein incorporated by reference in its entirety.--

REMARKS

The foregoing amendment cancels claims 10-14,16-19, 21,31-35, 37, 38, 39,and 41-42 without prejudice or disclaimer, adds new claims 43-96, and states that the above-identified application is a continuation of application serial number 09/004,113 filed 01/07/98 and incorporates it by reference. No new matter has been added.

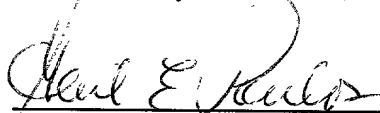
It is believed that this amendment places the application in better consideration for examination and therefore entry is appropriate.

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In the event this paper is deemed not timely filed, the undersigned petitions for an appropriate extension of time. Please charge any fees which may be required by this paper or at any time during prosecution of the instant application, or credit any overpayment, to deposit account 21-0414.

Respectfully Submitted,

May 3, 2001
Date



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

At the top of page 1, before the first line, the following sentence was inserted:

This is a divisional of application serial number 09/304,362, filed 05/04/1999, which is herein incorporated by reference in its entirety.

IN THE CLAIMS:

Claims 10-14, 16-19, 21, 31-35, 37, 38, and 40-42 have been canceled.

New claims 43-96 have been added.

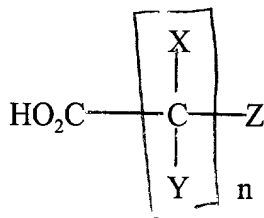
APPENDIX

CLEAN COPY OF PENDING CLAIMS

What is claimed is:

1. A composition comprising:

(A) an effective amount of at least one compound of formula I



Formula I

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl group;

each Y is independently H, (C₁-C₈) alkyl group,

Z is H, OH, SH, COOH, or (C₁-C₈) alkyl group;

n is an integer between 1 and 10, inclusive;

and salts thereof; and

an effective amount of at least one compound from group II wherein group II compounds

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include a ketone having 3-10 carbon atoms, carbon dioxide, (C₂-C₁₀) alkene, (C₁-C₁₀) aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀) aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀) heterocyclic group;

wherein any one or more of the (C₆-C₁₀) aryl group or (C₃-C₁₀) heterocyclic group may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈) alkyl group, (C₁-C₈) alkyl group, (C₁-C₈) alkyl sulfide and (C₁-C₈) alkyl group;

and salts thereof; wherein the composition is effective to attract arthropods; or

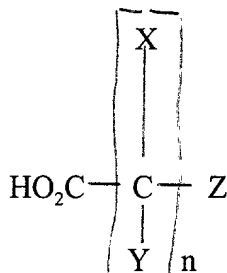
(B) a composition comprising an effective amount of tartaric acid or an acceptable salt thereof;

and an effective amount of at least one compound from group II wherein group II compounds include a ketone having 3-10 carbon atoms, carbon dioxide, (C₂-C₁₀) alkene, (C₁-C₁₀) aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀) aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀) heterocyclic group;

wherein any one or more of the (C₆-C₁₀) aryl group or (C₃-C₁₀) heterocyclic group may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈) alkyl group, (C₁-C₈) alkyl group, (C₁-C₈) alkyl sulfide and (C₁-C₈) alkyl group;

and salts thereof; wherein the composition is effective to attract arthropods; or

(C) a composition comprising an effective amount of at least one



compound of formula I,

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl, (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and halogen;

each Y is independently H, (C₁-C₈) alkyl, or (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and halogen, or Y is absent when X is oxo;

Z is H, OH, SH, COOH, (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and halogen;

n is an integer between 1 and 10, inclusive;

and acceptable salts thereof;

an effective amount of at least one compound from group II wherein group II compounds include a ketone having 3-10 carbon atoms, (C₂-C₁₀)alkene, (C₁-C₁₀)aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀)aryl group, carbon dioxide, a

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sulfide containing 1-8 carbon atoms and (C₃-C₁₀)heterocyclic group;

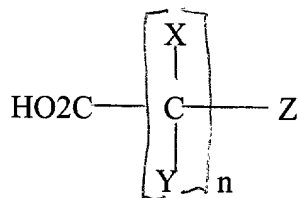
and salts thereof;

with the proviso that the compound of formula I does not consist solely of glycolic acid, oxalic acid, acetic acid, hydraacrylic acid, pyruvic acid, glyceric acid, 3-hydroxypyruvic acid, malonic acid, 3-hydroxybutyric acid, 2-methylactic acid, 2-hydroxybutyric acid, 2-oxobutyric acid, isobutyric acid, butyric acid, malic acid, 2-oxovaleric acid, 2-hydroxyvaleric acid, 2-hydroxyvaleric acid, valeric acid, isovaleric acid, 2-methylvaleric acid, hexanoic acid, mercaptoacetic acid, thiolactic acid, 3-mercaptopropionic acid, thiopropionic acid, 3-mercaptopropionic acid, 2-bromopropionic acid, 2-bromobutyric acid, 2-chloropropionic acid, 3-chloropropionic acid, lactic acid or formic acid;

and salts thereof;

wherein the composition is effective to attract arthropods.

2. A composition comprising an effective amount of at least one compound of formula I



Formula I

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl group;

each Y is independently H, (C₁-C₈) alkyl group;

Z is H, OH, SH, COOH, or (C₁-C₈) alkyl group;

n is an integer between 1 and 10, inclusive;

and salts thereof; and

an effective amount of at least one compound from group II wherein group LI compounds include a ketone having 3-10 carbon atoms, (C₂-C₁₀)alkene, (C₁-C₁₀)aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, carbon dioxide, (C₆-C₁₀)aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀)heterocyclic group;

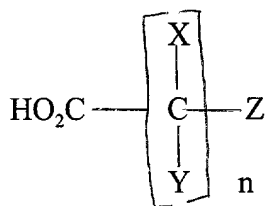
wherein any one or more of the (C₆-C₁₀)aryl or (C₃-C₁₀)heterocyclic may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈)alkyl group, (C₁-C₈)alkyl group, (C₁-C₈)alkyl sulfide and (C₁-C₈)alkyl group, and NR₁R₂ wherein R₁ and R₂ are independently selected from the group consisting of (C₁-C₈) alkyl and H;

and salts thereof; wherein the composition is effective to attract arthropods.

3. The composition of claim 1 wherein the arthropod is a mosquito belonging to the genera Culex, Aedes, Mansonia, Wyeomyia, Psorophora, Coquillettia or Anopheles.
4. The composition of claim 1 wherein X is H, OH, or CH₃.
5. The composition of claim 1 wherein Y is H.

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6. The composition of claim 1 wherein n is 1 or 2.
7. The composition of claim 1 wherein the compound of formula I is lactic acid, glycolic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.
8. The composition of claim 1 wherein the compound of formula I is lactic acid, or an acceptable salt thereof.
9. The composition of claim 1 wherein the ketone is acetone, 2-butanone, 2-pentanone, 2-hexanone, 3-pentanone, 3-hexanone, 3-heptanone, 4-heptanone, 5-nonanone, 3-methyl-2-butanone, 4-methyl-2-pentanone, 3-penten-2-one, 3-buten-2-one, 3-hydroxy-2-butanone, 2,3-butanedione or 2,4-pentanedione.
15. The composition of claim 1 wherein the sulfide is carbon disulfide, dimethyl sulfide, diethyl sulfide, dimethyl disulfide, diethyl disulfide, methyl propyl disulfide, ethyl vinyl sulfide, dimethyl sulfoxide or dimethyl trisulfide.
20. The composition of claim 1 wherein formula I compounds comprise lactic acid and group II compounds comprise acetone, dimethyl sulfide and carbon dioxide.
22. A method of attracting arthropods comprising the step of exposing the environment with a composition comprising an effective amount of at least one compound of formula I



Formula I

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl group;

each Y is independently H, (C₁-C₈) alkyl group,

Z is H, OH, SH, COOH, or (C₁-C₈) alkyl group;

n is an integer between 1 and 10, inclusive;

and salts thereof; and

an effective amount of at least one compound from group II wherein group II compounds include a ketone having 3-10 carbon atoms, carbon dioxide, (C₂-C₁₀) alkene, (C₁-C₁₀) aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀) aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀) heterocyclic group;

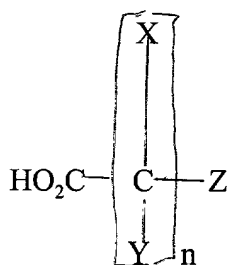
wherein any one or more of the (C₆-C₁₀) aryl group or (C₃-C₁₀) heterocyclic group may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈) alkyl group, (C₁-C₈) alkyl group, (C₁-C₈) alkyl sulfide and (C₁-C₈) alkyl group;

and salts thereof; wherein the composition is effective to attract arthropods; or

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(B) a composition comprising an effective amount of tartaric acid or an acceptable salt thereof;
and an effective amount of at least one compound from group II wherein group II compounds include a ketone having 3-10 carbon atoms, carbon dioxide, (C₂-C₁₀) alkene, (C₁-C₁₀) aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀) aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀) heterocyclic group;
wherein any one or more of the (C₆-C₁₀) aryl group or (C₃-C₁₀) heterocyclic group may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈) alkyl group, (C₁-C₈) alkyl group, (C₁-C₈) alkyl sulfide and (C₁-C₈) alkyl group;
and salts thereof; wherein the composition is effective to attract arthropods; or

(C) a composition comprising an effective amount of at least one



compound of formula I,

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl, (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and

halogen;

each Y is independently H, (C₁-C₈) alkyl, or (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and halogen, or Y is absent when X is oxo;

Z is H, OH, SH, COOH, (C₁-C₈) alkyl substituted with at least one substituent selected from the group consisting of H, OH, SH, and halogen;

n is an integer between 1 and 10, inclusive;

and acceptable salts thereof;

an effective amount of at least one compound from group II wherein group II compounds include a ketone having 3-10 carbon atoms, (C₂-C₁₀)alkene, (C₁-C₁₀)aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, (C₆-C₁₀)aryl group, carbon dioxide, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀)heterocyclic group; and salts thereof;

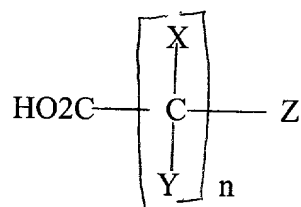
with the proviso that the compound of formula I does not consist solely of glycolic acid, oxalic acid, acetic acid, hydraacrylic acid, pyruvic acid, glyceric acid, 3-hydroxypyruvic acid, malonic acid, 3-hydroxybutyric acid, 2-methylactic acid, 2-hydroxybutyric acid, 2-oxobutyric acid, isobutyric acid, butyric acid, malic acid, 2-oxovaleric acid, 2-hydroxyvaleric acid, 2-hydroxyvaleric acid, valeric acid, isovaleric acid, 2-methylvaleric acid, hexanoic acid, mercaptoacetic acid, thiolactic acid, 3-mercaptopropionic acid, thiopropionic acid, 3-mercaptopropionic acid, 2-bromopropionic acid, 2-bromobutyric acid, 2-chloropropionic acid, 3-chloropropionic acid, lactic acid or formic acid;

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and salts thereof;

wherein the composition is effective to attract arthropods.

23. A method of attracting arthropods comprising the step of exposing the environment with a composition comprising an effective amount of at least one compound of formula I



Formula I

wherein each X is independently H, halogen, OH, SH, oxo, (C₁-C₈) alkyl group;

each Y is independently H, (C₁-C₈) alkyl group;

Z is H, OH, SH, COOH, or (C₁-C₈) alkyl group;

n is an integer between 1 and 10, inclusive;

and salts thereof; and

an effective amount of at least one compound from group II wherein group LI compounds include a ketone having 3-10 carbon atoms, (C₂-C₁₀)alkene, (C₁-C₁₀)aldehyde, an alcohol having 1-8 carbon atoms, a halogenated compound containing 1-8 carbon atoms, a nitrile containing 2-4 carbon atoms, an ether containing 3-10 carbon atoms, carbon dioxide, (C₆-C₁₀)aryl group, a sulfide containing 1-8 carbon atoms and (C₃-C₁₀)heterocyclic group;

wherein any one or more of the (C₆-C₁₀)aryl or (C₃-C₁₀)heterocyclic may be substituted at any one or more positions with a substituent selected from the group consisting of H, oxo, halogen, OH, SH, COOH, COO(C₁-C₈)alkyl group, (C₁-C₈)alkyl group, (C₁-C₈)alkyl sulfide and (C₁-C₈)alkyl group, and NR₁R₂ wherein R₁ and R₂ are independently selected from the group consisting of (C₁-C₈) alkyl and H;;

and salts thereof; wherein the composition is effective to attract arthropods.

24. The method of claim 22 wherein the arthropod is a mosquito belonging to the genera Culex, Aedes, Mansonia, Wyeomyia, Coquillletidia, Psorophora or Anopheles.

25. The method of claim 22 wherein X is H, OH, or CH₃.

26. The method of claim 22 wherein Y is H.

27. The method of claim 22 wherein n is 1 or 2.

28. The method of claim 22 wherein formula I compounds comprise lactic acid, glycolic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.

29. The method of claim 22 wherein formula I compounds comprise lactic acid or an acceptable salt thereof.

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30. The method of claim 22 wherein the ketone is acetone, 2-butanone, 2-pentanone, 2-hexanone, 2-heptanone, 3-pentanone, 3-hexanone, 3-heptanone, 4-heptanone, 5-nonanone, 3-methyl-2-butanone, 4-methyl-2-pentanone, 3-pentanone-2-one, 3-buten-2-one, 3-hydroxy-2-butanone, 2,3-butanedione or 2,4-pentanedione.
36. The method of claim 22 wherein the sulfide is carbon disulfide, dimethyl sulfide, diethyl sulfide, dimethyl disulfide, diethyl disulfide, methyl propyl disulfide, ethyl vinyl sulfide, dimethyl sulfoxide or dimethyl trisulfide.
40. The method of claim 22 wherein formula I compounds comprise lactic acid or an acceptable salt thereof and group II compounds comprise acetone and dimethyl disulfide.
43. The composition of claim 1 wherein the compound of formula 1 is lactic acid, pyruvic acid, glycolic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.
44. A composition comprising mosquito attracting amounts of lactic acid and butanone.
45. The composition of claim 44 further comprising dimethyl disulfide.
46. A composition comprising mosquito attracting amounts of lactic acid and 2-pentanone.
47. A composition comprising mosquito attracting amounts of lactic acid and carbon disulfide.

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48. The composition of claim 47 further comprising carbon dioxide.
49. A composition comprising mosquito attracting amounts of lactic acid and acetone.
50. The composition of claim 49 further comprising carbon dioxide.
51. A composition comprising mosquito attracting amounts of lactic acid and dimethyl disulfide.
52. The composition of claim 51 further comprising carbon dioxide.
53. A composition comprising mosquito attracting amounts of pyruvic acid and acetone.
54. A composition comprising mosquito attracting amounts of glycolic acid and acetone.
55. A composition comprising mosquito attracting amounts of glycolic acid and carbon dioxide.
56. The composition of claim 55 further comprising lactic acid.
57. The method of claim 22 wherein formula I compounds comprise lactic acid, glycolic acid, pyruvic acid, thiolactic acid, tartaric acid, or an acceptable salt thereof.

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58. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and butanone.

59. The method of claim 58 wherein the composition further comprises dimethyl disulfide.

60. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and 2-pentanone.

61. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and carbon disulfide.

62. The method of claim 61 wherein the composition further comprises carbon dioxide.

63. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and acetone.

64. The method of claim 63 wherein said composition further comprises carbon dioxide.

65. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of lactic acid and dimethyl disulfide.

66. The method of claim 65 wherein the composition further comprises carbon dioxide.

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67. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of pyruvic acid and acetone.

68. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of glycolic acid and acetone.

69. A method for attracting mosquitos comprising exposing an environment with a composition comprising mosquito attracting amounts of glycolic acid and carbon dioxide.

70. The method of claim 69 wherein said composition further comprises lactic acid.

71. A composition consisting essentially of mosquito attracting amounts of lactic acid and butanone.

72. A composition consisting essentially of mosquito attracting amounts of lactic acid, butanone, and dimethyl disulfide.

73. A composition consisting essentially of mosquito attracting amounts of lactic acid and 2-pentanone.

74. A composition consisting essentially of mosquito attracting amounts of lactic acid and carbon disulfide.

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75. A composition consisting essentially of mosquito attracting amounts of lactic acid, carbon disulfide, and carbon dioxide.

76. A composition consisting essentially of mosquito attracting amounts of lactic acid and acetone.

77. A composition consisting essentially of mosquito attracting amounts of lactic acid, acetone, and carbon dioxide.

78. A composition consisting essentially of mosquito attracting amounts of lactic acid and dimethyl disulfide.

79. A composition consisting essentially of mosquito attracting amounts of lactic acid, dimethyl disulfide, and carbon dioxide.

80. A composition consisting essentially of mosquito attracting amounts of pyruvic acid and acetone.

81. A composition consisting essentially of mosquito attracting amounts of glycolic acid and acetone.

82. A composition consisting essentially of mosquito attracting amounts of glycolic acid and carbon dioxide.

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83. A composition consisting essentially of mosquito attracting amounts of glycolic acid, carbon dioxide, and lactic acid.

84. (Newly Added) A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and butanone.

85. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, butanone and dimethyl disulfide.

86. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and 2-pentanone.

87. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and carbon disulfide.

88. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, carbon disulfide, and carbon dioxide.

89. A method for attracting mosquitos comprising exposing an environment with a composition

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consisting essentially of mosquito attracting amounts of lactic acid and acetone.

90. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, acetone, and carbon dioxide.

91. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid and dimethyl disulfide.

92. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of lactic acid, dimethyl disulfide, and carbon dioxide.

93. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of pyruvic acid and acetone.

94. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of glycolic acid and acetone.

95. A method for attracting mosquitos comprising exposing an environment with a composition consisting essentially of mosquito attracting amounts of glycolic acid and carbon dioxide.

96. A method for attracting mosquitos comprising exposing an environment with a composition

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398</
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